

REMARKS

In the Office Action of January 10, 2006, claims 1-2, 4-25 and 31-33 were rejected under 35 U.S.C. 103(a) as being obvious over Hansen (U.S. Patent No. 5,807,364) in view of Klopfenstein et al. (U.S. Patent No. 4,100,984). This ground of rejection is traversed.

The Examiner states that Hansen discloses all aspects of the claimed invention except for the portion of the apparatus that deposits the particulate matter. Klopfenstein, et al. has been cited for showing the use of a vibrating feed tray powered by a motor for depositing particulate matter. The Examiner further states that while neither reference specifically discloses that the fibrous material is a tow of continuous crimped fibers as presently claimed, the instant claims do not disclose a specific structure for supplying the opened tow of continuous fibers, and therefore the references are capable of performing this function.

The claims of this invention have now been amended to recite that the apparatus adapted for providing a supply of the fibrous material is a forming jet assembly. Antecedent support for this amendment is found in the specification at pages 29-32. This portion of the specification provides that the forming jet assembly 304 comprises a tow inlet, into which a tow supply is fed, and one or more high velocity jets of air or other gas impinging upon the tow supply, thereby separating the fibers and opening the tow. Page 30, lines 7-12 of the specification. Thus, the tow is prepared for being incorporated into the absorbent core. No new matter is added as a result of this amendment.

Three criteria must be met to establish a prima facie case of obviousness: (1) there must be some suggestion or motivation to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art references must teach or suggest all the claim limitations. See MPEP § 2142 et seq.

Applicants respectfully submit that the references, either singly or in combination, fail to teach or suggest all of the claim limitations. Specifically, the cited references fail to teach an apparatus for depositing particulate matter onto a supply of fibrous material comprising, *inter alia*, a forming jet assembly as recited in the pending claims.

Hansen discloses depositing and adhering particulate materials onto a roll or bale

of individualized (defiberized) fibers. See col. 7, lines 51-59 and col. 8, lines 38-51 of the reference. Hansen also discloses an apparatus for depositing particulate materials on fibers, where the apparatus includes a mechanism (item 72) that "typically comprises a metering mechanism, although any suitable device for adding particles to fibrous materials may be used." *Id.* at col. 8, line 61 to col. 9, line 12. Hansen discloses that the fibers are preferably cellulosic or synthetic fibers. *Id.* at col. 10, lines 33-35. Suitable fibers include wood pulp fibers, or other natural or synthetic fibers having a functional group capable of forming a hydrogen bond. *Id.* at col. 10, line 39, col. 11, lines 30-36. However, Hansen does not teach or suggest an apparatus to supply or apply particulate materials to an opened tow of continuous crimped fibers, as recited in the present claims. In Hansen, the fibers to which the particulate material is applied are individualized, as opposed to continuous. For example, the fibers are defiberized or refiberized, such as by using a hammer mill. *Id.* at col. 7, lines 57-59, col. 8, line 56 to col. 9, line 4. The fibers are preferably elongated, but Hansen only contemplates an aspect ratio of about 10:1 to 5:1. *Id.* at col. 10, lines 54-56. Hansen fails to disclose the application of particulate material to continuous crimped fibers, much less an apparatus to supply an opened tow of continuous crimped fibers.

Klopfenstein is insufficient to cure the deficiencies of Hansen. Klopfenstein discloses an apparatus for controlling the feed rate of material into a receptacle such as a weighing bucket. The apparatus includes a vibrating feed tray (item 2). By vibrating the feed tray, material is conducted along the surface of the tray to the edge of the tray, where it feeds into the receptacle. Klopfenstein, col. 4, lines 13-17. The material feed may be stopped by stopping the vibration of the tray. *Id.* at col. 4, lines 37 - 41. However, Klopfenstein does not teach or suggest an apparatus for supplying or applying particulate materials to an opened tow of continuous crimped fibers, as recited in the present claims. Rather, Klopfenstein is directed toward an apparatus for filling packages with material. *Id.* at col. 1, lines 6-9.

In contrast to Hansen and Klopfenstein, the present claims recite an apparatus for the application of particulate materials to a supply of fibers that includes a forming jet assembly to provide an opened tow of continuous crimped fibers. The claimed apparatus further includes a vibratory feed tray adapted to deposit particulate material onto this

supply of continuous crimped fibers. The benefit of the claimed apparatus is that it permits the controlled deposition of particulate matter, such as a superabsorbent polymer particles, into an absorbent core. See page 7, lines 17-27 of the present application.

Claim 3 stands rejected under 35 U.S.C. 103(a) as obvious over Hansen, in view of Klopfenstein et al. and Chmielewski (U.S. Patent No. 6,632,209). This ground of rejection is respectfully traversed.

Claim 3 is directed to the embodiment of claim 1 wherein the particulate matter is an opened tow of cellulose acetate. Chmielewski has been cited for its disclosure of the use of cellulose acetate for improved wicking and absorbing capabilities when used in absorbent articles. Notwithstanding, there is nothing in the Chmielewski reference that would cure the deficiencies of the Hanson and Klopfenstein references noted above, particularly with respect to the use of a forming jet assembly for supplying fibrous material to the apparatus.

Claims 27-30 stand rejected under 35 U.S.C. 103(a) as being obvious over Hansen in view of Klopfenstein et al. and Jackson et al. (U.S. Patent No. 5,952,251). This ground of rejection is traversed.

The Examiner states that Jackson et al. teaches the use of a vacuum draw roll in the formation of a fibrous web for an absorbent article. Applicants respectfully disagree with the Examiner for at least the following reasons.

Jackson et al. describes an assembly having a pair of vacuum rolls 30 and 31 for the formation of composite structure 34. In order to form fibrous nonwoven structure, the stream 15 of fiber blend is passed into the nip of a pair of vacuum rolls 30 and 31 having foraminous surfaces that rotate continuously over a pair of fixed vacuum nozzles 32 and 33. As the integrated stream 15 enters the nip of the rolls 31 and 33, the carrying gas is sucked into the two vacuum nozzles 32 and 33 while the fiber blend is supported and slightly compressed by the opposed surfaces of the two rolls 30 and 31. This forms an integrated, self-supporting fibrous nonwoven composite structure 34 that has sufficient integrity to permit it to be withdrawn from the vacuum roll nip and conveyed to a wind-up roll 35 (col. 14, lines 30-47 of the reference).

In contrast to Jackson et al., applicants assemble the absorbent core composite as the various parts of the assembly are pulled onto the rotating vacuum draw roll 322. In

the first step, which takes place at location A, the first casing sheet supply 316 is drawn onto the vacuum draw roll 322. In the second step, at location B, the opened tow 312 is drawn onto the vacuum draw roll 322 to overlay the first casing sheet supply 316 after being pulled out of the forming jet assembly 304. In the third step, at location C, a supply of SAP 326 is deposited onto the opened tow 312 by the vibratory feeder 332. And in the fourth step, at location D, the second casing sheet supply 318 is brought in to overlies the first casing sheet supply 316, opened tow 312 and deposited SAP. See page 34, lines 17-26 of the present specification.

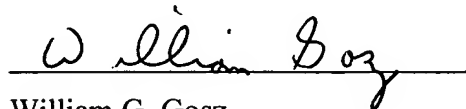
The apparatus of instant claims 27-30 is not obvious over the Jackson et al. reference since applicants add SAP in the absorbent core composite in a step wise manner to attain a distribution of the SAP onto the opened tow fiber by using a vibrator feeder. In contrast, Jackson et al. uses vacuum rolls which cannot be modified to achieve a similar result. A person of ordinary skill in the art, having prior knowledge of the Jackson et al. apparatus, would not be motivated to construct the apparatus of the present invention based on Jackson, et al.

Claim 26 has been objected to being depended on a rejected independent claim. In the interest of advancing the prosecution of this application, applicants have now amended claim 26 to include the features of claim 18.

Accordingly, the present application is now believed to overcome the remaining rejections, and to be in proper condition for allowance. Reconsideration of the rejections and allowance of this application are therefore respectfully solicited. The Examiner is invited to contact the undersigned at the telephone number listed below to facilitate the prosecution of this application.

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Respectfully submitted,



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